

LISTING OF THE CLAIMS

1. (Previously presented) An apparatus for controlling the pressure in a process chamber, said apparatus comprising:
 - a first flow restricting element (FRE), wherein said first FRE is an immobile flow restricting element, said first FRE located in serial fluidic communication with said process chamber and downstream from said process chamber;
 - a pressure control chamber (PCC) located in serial fluidic communication downstream from said first FRE;
 - a second FRE located in serial fluidic communication downstream from said PCC, wherein said second FRE is an immobile flow restricting element;
 - a gas source;
 - a flow controlling device in serial fluidic communication downstream from said gas source and upstream from said PCC for controlling the PCC pressure and the pressure in said process chamber; and
 - a vacuum pump downstream from said second FRE for creating a sub atmospheric pressure in said apparatus.
2. (Previously presented) An apparatus as in claim 1, and further comprising:
 - a reactive gas source connected in serial fluidic communication upstream from said PCC;and
 - an abatement element located within said PCC.
3. (Previously presented) An apparatus as in claim 1, and further comprising:
 - a third FRE connected in serial fluidic communication downstream from said PCC;
 - an abatement chamber connected in serial fluidic communication upstream from said third FRE;
 - a reactive gas source connected in serial fluidic communication upstream from said abatement chamber; and
 - an abatement element disposed within said abatement chamber.

4. (Previously presented) An apparatus as in claim 1 wherein:
said process chamber and said PCC are formed as compartments within a single process vessel; and
said first FRE is formed within the partition between said process chamber and said PCC.

5. (Previously presented) A wafer processing apparatus comprising:
a process chamber;
a process reactive gas supply line from a process gas source in serial fluidic communication with said process chamber and upstream from said process chamber;
an upstream flow control device located in serial fluidic communication upstream from said process chamber and downstream from said process gas source;
a first flow restricting element located in serial fluidic communication downstream from said process chamber, wherein said first FRE is an immobile flow restricting element;
a pressure control chamber (PCC) located in serial fluidic communication downstream from said first FRE;
a second FRE located in serial fluidic communication downstream from said PCC, wherein said second FRE is an immobile flow restricting element;
a gas source; and
a flow controlling device in serial fluidic communication downstream from said gas source and upstream from said PCC for controlling the PCC pressure and the pressure in said process chamber; and
a vacuum pump downstream from said second FRE for creating a sub atmospheric pressure in said wafer processing apparatus.

6. (Previously presented) A wafer processing apparatus as in claim 5, and further comprising:
a reactive gas source connected in serial fluidic communication upstream from said PCC;
and
an abatement element located within said PCC.

7. (Previously presented) A wafer processing apparatus as in claim 5, and further comprising:

a third FRE connected in serial fluidic communication downstream from said PCC;
an abatement chamber connected in serial fluidic communication upstream from said third FRE;

a reactive gas source connected in serial fluidic communication upstream from said abatement chamber; and

an abatement element located within said abatement chamber.

8. (Previously presented) A wafer processing apparatus as in claim 5 wherein:
said process chamber and said PCC are formed as compartments within a single process vessel; and

said first FRE is formed within the partition between said process chamber and said PCC.

9. (Previously presented) A wafer processing apparatus as in claim 5 wherein said wafer processing apparatus comprises a low pressure chemical vapor deposition (LPCVD) apparatus.

10. (Previously presented) A wafer processing apparatus as in claim 5 wherein said wafer processing apparatus comprises a reactive ion etching (RIE) apparatus.

11. (Previously presented) A wafer processing apparatus as in claim 5 wherein said wafer processing apparatus comprises a plasma enhanced chemical vapor deposition (PECVD) apparatus.

Claims 12 – 15 (Canceled)

16. (Previously presented) An apparatus for controlling the pressure in a process chamber, said apparatus comprising:

- (a) a first flow restricting element (FRE) located in serial fluidic communication downstream from said process chamber, wherein said first FRE is an immobile flow restricting element;
- (b) a pressure control chamber (PCC) located in serial fluidic communication downstream from said first FRE;
- (c) a second FRE located in serial fluidic communication downstream from said PCC, wherein said second FRE is an immobile flow restricting element;
- (d) a gas source (208);
- (e) a flow controlling device in serial fluidic communication downstream from said gas source and upstream from said PCC for controlling the PCC pressure and the pressure in said process chamber;
- (f) a reactive gas source connected in serial fluidic communication upstream from said PCC;
- (g) an abatement element located within said PCC; and
- (h) a vacuum pump downstream from said second FRE for creating a sub atmospheric pressure in said apparatus.